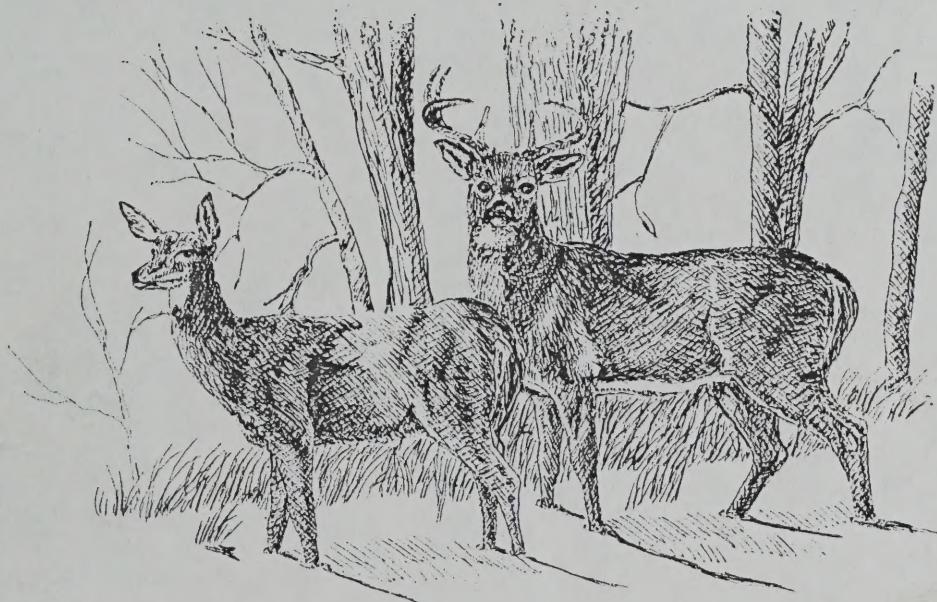


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ILLINOIS

JOB COMPLETION REPORT

FOREST WILDLIFE INVESTIGATIONS



FEDERAL AID PROJECT NUMBER W-105-R (3)

PERIOD COVERED: JULY 1, 1991 TO JUNE 30, 1992

Prepared by: John H. Kube



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ILLINOIS

5705

STUDY 1 - POPULATION STUDIES OF WHITE-TAILED DEER

STATE OF ILLINOIS

NAME: FOREST WILDLIFE INVESTIGATIONS

PROJECT NO. : W-105-R (3)

TITLE: POPULATION DATA FROM DEER HARVEST

JOB 1 A

OBJECTIVE: To characterize the status of deer herds as to structure, sex ratio, and general conditions by county, region, and statewide from check station data.

ABSTRACT:

Traditional Firearm Deer Season: The 1991 firearm deer season consisted of one 3-day weekend, (the third Friday, Saturday and Sunday in November) and a second 4-day weekend (the second Thursday, Friday, Saturday and Sunday in December), which was an increase of one day for hunting over the 1990 season. Harvest information collected at check stations located in the 98 counties open to firearm hunting identified a record harvest of 82,190, which is an increase of 15,897 (24%) over 1990. A total of 206,174 permits were issued, with a hunter success rate of 40 percent, a decrease of 6 percent from 1990. Reported harvest for muzzleloading hunters (during the regular firearm season) was 1,251 deer, reflecting a decrease of 99 deer from the previous year. There were 34,830 (494 percent increase over 1990) second season only permits issued which resulted in a reported harvest of 9,909 deer (581 percent increase over 1990). Hunter success for second-season only permit holders was 28 percent. Table 1 illustrates the 1991 deer harvest by county and by age/sex. Table 1 also illustrates the 1991 firearm deer harvest by county and percent change in hunter success between 1990-1991.

Muzzleloading Deer Season: The Department of Conservation provided for a statewide 3-day weekend (Dec. 20, 21 and 22) Muzzleloading Deer Season for the first time during 1991. Individuals interested in hunting this distinct and separate season were required to apply for an either-sex permit and were not eligible to apply for a regular shotgun permit during the initial lottery. All applicants (402) received a permit. At a later date, additional muzzleloading permits (139) were made available as antlerless-only permits. Prior to the season it was announced that landowners with unfilled permits (Free and Paid) would be allowed to use a muzzleloading rifle to hunt only on their property. It is impossible to determine the number of landowners taking advantage of this opportunity. Successful hunters were required to check their deer at a voluntary archery or muzzleloading check station. The Muzzleloading Deer Season resulted in the harvest of 128 deer. Hunter success for individuals receiving a muzzleloading either-sex permit (402) was 6 percent while individuals receiving antlerless-only permits (139) also had a hunter success of 6 percent. Overall hunter success was not computed because it was impossible to determine how many unsuccessful landowner permit holders utilized their unfilled permits to hunt during the muzzleloading season. Table 2 illustrates the 1991 muzzleloading harvest by county and by age/sex.

Handgun Deer Season - Special January Season: An "experimental" 3-day handgun season was held during January (17, 18 and 19) 1992 in 10 counties in Illinois. Definition of a legal handgun consisted of the following: (1) handguns cannot be carried concealed; (2) automatic and semi-automatic handguns are illegal; (3) minimum barrel length is 4 inches; and (4) the only legal handgun cartridge must be center fire and .30 caliber or larger with a factory load available that, according to published ballistic tables of the manufacturer, produces at least 500 foot pounds of energy at the muzzle and whose case length does not exceed 1.4 inches. According to these parameters, legal handguns include but not necessarily limited to the following: .30 caliber carbine, .357 magnum, 10 mm, .41 magnum, .45 Winchester magnum, and the .454 Casull. Counties selected for hunting had deer densities that were perceived by landowners as excessive (Nixon et al. - Attitudes of Illinois Farmers Regarding Deer and Deer Hunters, 1990) and historical hunter success that exceeded 50 percent. Antlerless-only permits (1000 per county) were made available through a randomized lottery drawing. A total of 5,860 permits were issued with only one county (Johnson) exhausting its permit allocation. The harvest consisted of 1,001 antlerless deer being taken for a hunter success of .17 percent. Of the 1,001 antlerless deer taken, 26 percent (262) were antlerless males with the remaining 74 percent taken as females. Table 3 illustrates the January 1992 handgun harvest by county and sex.

Archery Deer Season: The 1991 archery deer season consisted of 85 days between 1 October and 31 December 1991. Archery deer hunting was not allowed during the regular firearm deer season in counties open to firearm hunting; however, archers were allowed to hunt during the muzzleloading season but were required to wear 400 square inches of blaze orange. Archery permit allocations identified that there were 74,883 unique archers within the state with 12,091 individuals desiring an additional either-sex permit; 15,373 individuals elected to purchase an additional antlerless-only permit and 13,174 free landowner permits were issued, for a total of 115,521 archery permits allocated. Archers were required to check their deer in at a voluntary archery check station within 48 hours of harvest. Archery harvest results identify that there were 18,099 deer taken, resulting in a hunter success of 16 percent (hunter success figured on all permits allocated). Table 4 illustrates the 1991 archery harvest by county.

TECHNIQUES:

It is mandatory that all successful hunters register their deer at one of the check stations established in each county that allows firearm deer hunting (98 of 102 counties in Illinois), archery hunting (legal in all 102 counties), and handgun deer hunting (legal in 10 of 102 counties). Hunters are no further than 25 miles from a check station location and are allowed to use the check station nearest the kill site. Due to the gradual erosion of compliance with this regulation, Law Enforcement needs to encourage their Conservation Police Officers (CPO's) to actively enforce the "county of kill or nearest check station" regulation for the successful firearm deer hunter (archers are not required to check their deer in the county of kill or the nearest check station). Each hunter receives a list of all check station locations within the state.

Data on sex, age and county of kill is recorded for all deer taken by gun, along with information on wild turkey sightings and other pertinent data. Data is taken from all kill sheets, entered into a computer file and results tabulated on state computers.

RECOMMENDATIONS:

It is recommended that harvest data be collected in the same manner during the 1992 season. Additional universities (colleges) should be contacted for hiring, training and coordinating the dispensing and collection of check station harvest data. Consideration needs to be given to providing additional either-sex permits to archers foregoing the random firearm deer permit lottery, expanding the number of counties open to handgun deer hunting, and revising the Game Code to allow for the use of handguns other than in a "special hunt" situation. The muzzleloading season should be continued for three more years under its current structure to provide the opportunity to evaluate participation and approval (disapproval) of the constituencies. After this evaluation period, should it be decided to terminate the muzzleloading season, it is suggested that consideration be given to consolidating a number of seasons, i.e., muzzleloading season, handgun season, and possibly a cross-bow season. Check station operations should continue using voluntary proprietorships throughout the state to register and record the harvests.

TABLE 1. 1991 FIREARM DEER HARVEST BY COUNTY & PERCENT CHANGE IN HUNTER SUCCESS BETWEEN 90-91.

COUNTY	1991 PERMITS	1991 HARVEST	1991 HUNTER SUCCESS	1990 HUNTER SUCCESS	CHANGE IN HUNTER SUCCESS	PERCENT CHANGE IN HUNTER SUCCESS BETWEEN 1990-1991 BETWEEN 1990-1991
ADAMS	5807	2758	0.47	0.54	-0.0651	-12.96%
ALEXANDER	1419	404	0.28	0.25	0.0347	12.00%
BOND	1715	662	0.39	0.53	-0.1440	-26.42%
BOONE	719	252	0.35	0.41	-0.0595	-14.63%
BROWN	2987	1455	0.49	0.54	-0.0529	-11.11%
BUREAU	2337	921	0.39	0.19	0.2041	105.26%
CALHOUN	2492	922	0.37	0.43	-0.0600	-13.95%
CARROLL	2413	931	0.39	0.51	-0.1242	-23.53%
CASS	1950	754	0.39	0.37	0.0167	5.41%
CHAMPAIGN	715	241	0.34	0.36	-0.0229	-5.56%
CHRISTIAN	1364	497	0.36	0.46	-0.0956	-21.74%
CLARK	2078	933	0.45	0.51	-0.0610	-11.76%
CLAY	2116	843	0.40	0.52	-0.1216	-23.08%
CLINTON	2190	663	0.30	0.35	-0.0473	-14.29%
COLES	1490	551	0.37	0.45	-0.0802	-17.78%
CRAWFORD	1757	855	0.49	0.55	-0.0634	-10.91%
CUMBERLAND	1386	576	0.42	0.47	-0.0544	-12.77%
DEKALB	828	286	0.35	0.40	-0.0546	-12.50%
DEWITT	829	341	0.41	0.46	-0.0487	-10.87%
DOUGLAS	528	183	0.35	0.44	-0.0934	-20.45%
EDGAR	1189	524	0.44	0.51	-0.0693	-13.73%
EDWARDS	804	401	0.50	0.49	0.0088	2.04%
EFFINGHAM	1815	649	0.36	0.42	-0.0624	-14.29%
FAYETTE	3582	1362	0.38	0.49	-0.1098	-22.45%
FORD	301	103	0.34	0.39	-0.0478	-12.82%
FRANKLIN	2094	717	0.34	0.42	-0.0776	-19.05%
FULTON	4446	1628	0.37	0.45	-0.0838	-17.78%
GALLATIN	1460	497	0.34	0.41	-0.0696	-17.07%
GREENE	2229	921	0.41	0.54	-0.1268	-24.07%
GRUNDY	1492	607	0.41	0.41	-0.0032	0.00%
HAMILTON	1845	707	0.38	0.45	-0.0668	-15.56%
HANCOCK	3434	1514	0.44	0.48	-0.0391	-8.33%
HARDIN	2365	849	0.36	0.38	-0.0210	-5.26%
HENDERSON	1668	632	0.38	0.38	-0.0011	0.00%
HENRY	1344	473	0.35	0.45	-0.0981	-22.22%
IROQUOIS	1361	552	0.41	0.49	-0.0844	-18.37%
JACKSON	6154	2736	0.44	0.49	-0.0454	-10.20%
JASPER	2124	1125	0.53	0.57	-0.0403	-7.02%
JEFFERSON	3281	1411	0.43	0.48	-0.0499	-10.42%
JERSEY	1961	572	0.29	0.34	-0.0483	-14.71%
JODAVIESS	5343	2234	0.42	0.52	-0.1019	-19.23%
JOHNSON	4299	1969	0.46	0.50	-0.0420	-8.00%
KANKAKEE	1041	254	0.24	0.30	-0.0560	-20.00%
KENDALL	464	138	0.30	0.39	-0.0926	0.00%
KNOX	2507	986	0.39	0.50	-0.1067	-22.00%
LASALLE	2795	1000	0.36	0.44	-0.0822	-18.18%
LAWRENCE	1151	554	0.48	0.52	-0.0387	-7.69%
LEE	1788	690	0.39	0.46	-0.0741	-15.22%
LIVINGSTON	1049	381	0.36	0.46	-0.0968	-21.74%
LOGAN	757	344	0.45	0.51	-0.0556	-11.76%
McDONOUGH	1804	782	0.43	0.46	-0.0265	-6.52%
McHENRY	2045	670	0.33	0.37	-0.0424	-10.81%



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TABLE 1. 1991 FIREARM DEER HARVEST BY COUNTY & PERCENT CHANGE IN HUNTER SUCCESS BETWEEN 90-91.

COUNTY	1991 PERMITS	1991 HARVEST	1991 HUNTER SUCCESS	1990 HUNTER SUCCESS	CHANGE IN HUNTER SUCCESS BETWEEN 1990-1991	PERCENT CHANGE BETWEEN 1990-1991
MCLEAN	1393	578	0.41	0.54	-0.1251	-24.07%
MACON	647	210	0.32	0.34	-0.0154	-5.88%
MACOUPIN	2882	1034	0.36	0.45	-0.0912	-20.00%
MADISON	1752	477	0.27	0.39	-0.1177	-30.77%
MARION	2778	1034	0.37	0.44	-0.0678	-15.91%
MARSHALL	1393	543	0.39	0.43	-0.0402	-9.30%
MASON	1440	573	0.40	0.43	-0.0321	-6.98%
MASSAC	907	348	0.38	0.39	-0.0063	-2.56%
MENARD	1090	417	0.38	0.46	-0.0774	-17.39%
MERCER	1853	699	0.38	0.49	-0.1128	-22.45%
MONROE	2577	794	0.31	0.41	-0.1019	-24.39%
MONTGOMERY	2007	814	0.41	0.49	-0.0844	-16.33%
MORGAN	1820	841	0.46	0.53	-0.0679	-13.21%
MOULTRIE	771	264	0.34	0.40	-0.0576	-15.00%
OGLE	2612	1101	0.42	0.56	-0.1385	-25.00%
PEORIA	2944	927	0.31	0.39	-0.0751	-20.51%
PERRY	3354	1619	0.48	0.58	-0.0973	-17.24%
PIATT	414	142	0.34	0.40	-0.0570	-15.00%
PIKE	6200	3493	0.56	0.70	-0.1366	-20.00%
POPE NORTH	4788	1666	0.35	0.36	-0.0120	-2.78%
POPE SOUTH	1575	511	0.32	0.35	-0.0256	-8.57%
PULASKI	1206	599	0.50	0.51	-0.0133	-1.96%
PUTNAM	885	339	0.38	0.47	-0.0869	-19.15%
RANDOLPH	4732	1932	0.41	0.49	-0.0817	-16.33%
RICHLAND	1345	580	0.43	0.56	-0.1288	-23.21%
ROCK ISLAND	1936	632	0.33	0.39	-0.0636	-15.38%
ST. CLAIR	2127	765	0.36	0.47	-0.1103	-23.40%
SALINE	2113	711	0.34	0.37	-0.0335	-8.11%
SANGAMON	1754	634	0.36	0.42	-0.0585	-14.29%
SCHUYLER	2946	1290	0.44	0.48	-0.0421	-8.33%
SCOTT	1152	543	0.47	0.51	-0.0386	-7.84%
SHELBY	2616	1073	0.41	0.47	-0.0598	-12.77%
STARK	363	139	0.38	0.44	-0.0571	-13.64%
STEPHENSON	2248	881	0.39	0.50	-0.1081	-22.00%
TAZEWELL	1831	615	0.34	0.44	-0.1041	-22.73%
UNION	4626	1912	0.41	0.42	-0.0067	-2.38%
VERMILION	1610	563	0.35	0.46	-0.1103	-23.91%
WABASH	652	281	0.43	0.42	0.0110	2.38%
WARREN	1207	465	0.39	0.51	-0.1247	-23.53%
WASHINGTON	2619	986	0.38	0.49	-0.1135	-22.45%
WAYNE	1801	845	0.47	0.57	-0.1008	-17.54%
WHITE	1484	693	0.47	0.52	-0.0530	-9.62%
WHITESIDE	1673	661	0.40	0.51	-0.1149	-21.57%
WILL	1175	276	0.23	0.25	-0.0151	-8.00%
WILLIAMSON	3851	1361	0.35	0.39	-0.0366	-10.26%
WINNEBAGO	1803	645	0.36	0.43	-0.0723	-16.28%
WOODFORD	1670	681	0.41	0.49	-0.0822	-16.33%
CRAB 1ST	578	283	0.49	0.45	0.0417	9.31%
CRAB 2ND	579	256	0.44	0.38	0.0619	16.29%
JOLIET ARSEN.	262	169	0.65	0.64	0.0006	0.09%
WILL CO. TRAIN	98	32	0.33	0.37	-0.0435	-11.75%
CILCO 1	103	44	0.43	0.39	0.0350	8.93%

TABLE 1. 1991 FIREARM DEER HARVEST BY COUNTY & PERCENT CHANGE IN HUNTER SUCCESS BETWEEN 90-91.

COUNTY	1991 PERMITS	1991 HARVEST	1991 HUNTER	1990 HUNTER	CHANGE IN HUNTER SUCCESS	PERCENT CHANGE IN HUNTER SUCCESS
			SUCCESS	SUCCESS	BETWEEN 1990-1991	BETWEEN 1990-1991
** SWMA				0.30		
FOX	20	8	0.40	0.35	0.0500	14.29%
HIDDEN	20	13	0.65	0.30	0.3500	116.67%
** EAGLE				0.25		
SAND	150	48	0.32	0.34	-0.0200	-5.88%
DPCA	25	4	0.16	0.16	0.0000	0.00%
LS HANDICAP	13	8	0.62	0.36	0.2517	69.23%
PENSTONE	16	2	0.13	0.43	-0.3036	-70.83%
SAV ORD	78	64	0.82	0.66	0.1585	23.95%
* LSP MOULTRIE	225	4	0.02	N/A	N/A	N/A
* LSP SHELBY	235	37	0.16	N/A	N/A	N/A
* REND HANDICAP	29	16	0.55	N/A	N/A	N/A
* CRAB HANDICAP	11	9	0.82	N/A	N/A	N/A
TOTALS	206176	82194	0.40	0.46	-0.0626	-13.28%

* NEW AREAS FOR 1991; THEREFORE NO COMPARISON FOR 1990

** AREAS NOT HUNTED IN 1991

TABLE 2. 1991 Illinois Muzzleloading Harvest By County And By Age/Sex

ILLINOIS MUZZLELOADING SEASON HARVEST RESULTS - 1991

COUNTY	TOTAL	SEX			COUNTY	TOTAL	SEX		
	HARVEST	MALE	FEMALE	UNKNOWN		HARVEST	MALE	FEMALE	UNKNOWN
Adams	2	1	1		Ogle	4	2	2	
Bond	1	0	1		Peoria	1	1	0	
Boone	1	0	1		Perry	9	5	4	
Bureau	2	1	1		Pike	4	0	4	
Calhoun	1	1	0		Pulaski	1	0	1	
Carroll	2	1	1		Randolph	4	1	3	
Cass	1	0	1		Rock Island	1	1	0	
Christian	1	1	0		St. Clair	2	0	2	
Clark	3	3	0		Sangamon	4	2	2	
Clay	2	1	1		Schuylerville	2	0	2	
Crawford	4	1	3		Shelby	2	0	2	
DeKalb	1	0	1		Union	5	4	1	
Effingham	1	1	0		Vermilion	1	1	0	
Fayette	2	2	0		Wabash	1	0	1	
Ford	1	0	1		Washington	1	0	1	
Franklin	1	1	0		Wayne	1	0	1	
Gallatin	2	1	1		White	3	2	1	
Greene	1	1	0		Whiteside	1	0	1	
Grundy	2	0	2		Will	1	1	0	
Hamilton	1	0	1		Winnebago	2	0	2	
Hardin	3	0	3		Woodford	1	1	0	
Iroquois	2	0	2		TOTALS	128	54	72	2
Jackson	5	2	3						
Jasper	2	1	1						
Jefferson	1	0	1						
JoDaviess	3	1	2						
Johnson	3	1	2						
LaSalle	3	0	3						
Lawrence	2	1	1						
Livingston	3	0	2	1					
Logan	1	1	0						
McDonough	3	1	2						
McHenry	4	3	1						
McLean	1	1	0						
Macoupin	1	1	0						
Marion	1	1	0						
Mercer	2	0	2						
Monroe	1	0	1						
Montgomery	1	0	0	1					
Morgan	3	3	0						

Counties not listed had no deer reported as harvested with a muzzleloader.

TABLE 3. 1992 Handgun Harvest

FINAL HANDGUN HARVEST RESULTS - 1992

<u>County</u>	<u>Total Harvest</u>	<u>Permits</u>	<u>Hunter Success</u>	<u>Antlerless Males</u>	<u>Females</u>
Adams	83	665	.12	23 (.28)	60 (.72)
Crawford	59	344	.17	14 (.24)	45 (.76)
Greene	46	330	.14	10 (.22)	36 (.78)
Jasper	97	401	.24	25 (.26)	72 (.74)
JoDaviess	117	836	.14	38 (.32)	79 (.68)
Johnson	144	1000	.14	40 (.28)	104 (.72)
Ogle	71	514	.14	16 (.23)	55 (.77)
Perry	99	517	.19	17 (.17)	82 (.83)
Pike	196	747	.26	57 (.29)	139 (.71)
Wayne	89	506	.18	22 (.25)	67 (.75)
Total	1,001	5,860	.17	262 (.26)	739 (.74)

TABLE 3A. Choice of Weapon Used by Successful Handgun Hunters

<u>Caliber Of Weapon</u>	<u>Number/Percent Of Weapons Used</u>
.44	448 (.45)
.357	355 (.35)
No Cal. Recorded	136 (.14)
.41	42 (.04)
.45	11 (.01)
.30	3 (.003)
10mm	2 (.002)
.454	2 (.002)
Other	2 (.002)
Total	1,001 (100%)

TABLE 4. 1991 ARCHERY DEER HARVEST BY COUNTY AND SEX

COUNTY	ADULT	MALES			MALE TOTAL	ADULT	FEMALES			FEMALE TOTAL	UNK. SEX TOTAL	GRAND TOTAL
		FAWN	AGE UNKNOWN	FAWN			FAWN	AGE UNKNOWN	FAWN			
ADAMS					175					107		282
ALEXANDER					12					6		18
BOND					95					91		186
BOONE					51					20	1	72
BROWN					108					51		159
BUREAU					81					44		125
CALHOUN					23					16		39
CARROLL					91					92		183
CASS					43					31		74
CHAMPAIGN					112					68		180
CHRISTIAN					90					80		170
CLARK					105					78		183
CLAY					97					71		168
CLINTON					74					40		114
COLES					104					67		171
COOK					38					17		55
CRAWFORD					210					96		306
CUMBERLAND					80					53		133
DEKALB					70					24	1	95
DEWITT					72					51		123
DOUGLAS					32					19		51
DUPAGE					29					7		36
EDGAR					89					64		153
EDWARDS					57					24		81
EFFINGHAM					64					52		116
FAYETTE					146					79		225
FORD					18					10		28
FRANKLIN					149					82		231
FULTON					153					97		250
GALLATIN					33					31		64
GREENE					80					61	2	143
GRUNDY					98					70		168
HAMILTON					51					26		77
HANCOCK					73					45		118
HARDIN					54					32		86
HENDERSON					38					16		54
HENRY					51					42		93
IROQUOIS					160					101		261
JACKSON					203					217	1	421
JASPER					162					121		283
JEFFERSON					222					176		398
JERSEY					71					59		130
JODAVIESS					224					112		336
JOHNSON					175					104	1	280
KANE					165					77	1	243
KANKAKEE					66					43		109
KENDALL					39					22		61
KNOX					115					62		177
LAKE					197					94	1	292
LASALLE					243					133		376
LAWRENCE					108					95		203
LEE					94					77		171
LIVINGSTON					63					44		107

TABLE 4. 1991 ARCHERY DEER HARVEST BY COUNTY AND SEX

COUNTY	MALES			MALE TOTAL	FEMALES			FEMALE TOTAL	UNK. SEX TOTAL	GRAND TOTAL
	ADULT	FAWN	UNKNOWN		ADULT	FAWN	UNKNOWN			
LOGAN				67				45		112
McDONOUGH				47				44		91
McHENRY				245				115	11	371
MCLEAN				158				102		260
MACON				73				52		125
MACOUPIN				197				146		343
MADISON				115				98		213
MARION				145				114		259
MARSHALL				40				22		62
MASON				73				57		130
MASSAC				67				27		94
MENARD				59				31		90
MERCER				28				34		62
MONROE				49				29	1	79
MONTGOMERY				139				83		222
MORGAN				101				62		163
MOULTRIE				51				30		81
OGLE				216				125	1	342
PEORIA				182				115		297
PERRY				182				145		327
PIATT				37				24		61
PIKE				249				158		407
POPE				102				55	1	158
PULASKI				33				19		52
PUTNAM				20				10		30
RANDOLPH				203				159	1	363
RICHLAND				77				63		140
ROCK ISLAND				102				55		157
ST. CLAIR				195				95	1	291
SALINE				61				33		94
SANGAMON				131				91		222
SCHUYLER				56				36		92
SCOTT				33				20		53
SHELBY				153				130		283
STARK				22				14		36
STEPHENSON				106				55		161
TAZEWELL				142				100		242
UNION				183				128		311
VERMILION				249				179		428
WABASH				64				52		116
WARREN				35				24		59
WASHINGTON				125				75		200
WAYNE				116				103		219
WHITE				98				56		154
WHITESIDE				90				52		142
WILL				234				160		394
WILLIAMSON				187				123		310
WINNEBAGO				157				86		243
WOODFORD				106				83		189
UNKNOWN COUNTY				62				49		111
TOTALS				10915				7160	24	18099
PERCENT OF TOTAL				60%				40%		

TABLE 4. 1991 ARCHERY DEER HARVEST BY COUNTY AND SEX

COUNTY	MALES			MALE			FEMALES			FEMALE			GRAND TOTAL
	ADULT	FAWN	UNKNOWN	TOTAL	ADULT	FAWN	UNKNOWN	TOTAL	ADULT	FAWN	UNKNOWN	TOTAL	
TOTAL # ADULTS	14953		83%										
TOTAL # FAWNS	2152		12%										
TOTAL # AGE UNKNOWN	994		5%										

* AGE NOT RECORDED BY SEX FOR 1991

ILLINOIS

STUDY 1 - POPULATION STUDIES OF WHITE-TAILED DEER

JOB 1B - HUNTING PRESSURE AND KILL ANALYSES

OBJECTIVE: To specify annual hunter success and interpret the effects of hunting pressure on harvest and hunter success.

ABSTRACT:

The 1991 firearm deer harvest was adequately controlled on a statewide basis. The season produced a 43 percent increase in the number of permits issued, with hunter success decreasing 6 percent from 1990. Season length was increased one day by adding a Thursday to the second season (Thur., Fri., Sat. and Sun). Additional permits were made available in the form of second-season only and antlerless-only permits. Additional firearm seasons were provided in the form of a muzzleloading-only season (December 20, 21, and 22) and an antlerless-only handgun season held between the 15-17 of January 1992. Sex ratio of the female harvest increased by 6 percent in 1991 over the 1990 doe harvest.

TECHNIQUES:

Traditional Firearm Deer Season: In an attempt to increase deer harvest in specific portions of the state, permits were made available through a sex specific quota allocation, i.e., either-sex full season, either-sex second season or antlerless-only permits for either the full season or second season. Previously landowners (owning at least 40 acres of agricultural land) received one either-sex permit valid for the full season. However, during 1991 landowners were provided with one either-sex permit and one antlerless-only permit for the full season and valid only on the land they owned. Paid landowner permits (allowing individuals owning 40 acres or more to hunt county wide) were issued as single full season either-sex permits. Table A illustrates permit type, number of permits issued, harvest and hunter success statewide by type.

TABLE A. 1991 ILLINOIS FIREARM DEER HARVEST BY PERMIT TYPE

	<u>PERMITS ISSUED</u>	<u>DEER HARVEST</u>	<u>PERCENT SUCCESS</u>
Full season either-sex	102,330	47,628	.53
Second season either-sex	36,297	10,032	.28
Full season antlerless-only	14,017	6,133	.44
Second season antlerless-only	4,850	1,316	.27
Free landowner either-sex	19,772	5,781	.29
Free landowner antlerless-only	19,772	6,460	.33
Paid landowner either-sex	9,136	4,840	.53
	206,174	82,190	.40

Table B illustrates hunter harvest and change in success rate between 1990 and 1991 on a regional basis.

TABLE B. ILLINOIS FIREARM DEER HARVEST STATISTICS BY REGION FOR 1991

<u>REGION</u>	<u>NUMBER OF PERMITS</u>	<u>HUNTER HARVEST</u>	<u>SUCCESS *</u>	<u>CHANGE IN SUCCESS RATE</u>
Region 1	18,934	7,433	.39 (.49)	-.10
Region 2	18,116	6,593	.36 (.40)	-.04
Region 3	32,217	12,395	.38 (.45)	-.06
Region 4	29,496	13,275	.45 (.53)	-.08
Region 5	8,566	3,092	.36 (.43)	-.07
Region 6	16,134	7,131	.44 (.51)	-.07
Region 7	46,782	18,106	.39 (.47)	-.08
Region 8	35,931	14,105	.39 (.41)	-.02
Statewide	206,176	82,130	.40 (.46)	-.06

* Figures in parenthesis represent success for 1990.

Table C illustrates the sex and age composition of the 1991 firearm deer harvest. An increase of 6 percent (over 1990) in the female cohort provides supportive evidence that the attempt to control deer densities through an increase in the female harvest has been initiated. The female fawn harvest remained relatively constant with 1990 figures, but there was an increase of 6 percent in the male fawn harvest. Statewide age structure of the harvest remained relatively unchanged with the exception that the fawn harvest increased 4 percent from the previous year. While it appears that there was additional harvest pressure exerted on the female segment of the population, it is difficult to ascertain to what extent it will impact the growth of the herd without first collecting additional harvest data in future years for comparison purposes.

TABLE C. SEX AND AGE COMPOSITION OF THE 1991 ILLINOIS DEER HARVEST

<u>AGE</u>	<u>MALE</u>	<u>FEMALE</u>	<u>TOTAL</u>
Fawn	12,776 (.28)	10,764 (.30)	23,540 (.29)
1.5	18,086 (.39)	10,564 (.29)	28,650 (.35)
2.5	10,046 (.22)	9,519 (.26)	19,565 (.24)
3.5	3,711 (.08)	3,535 (.10)	7,246 (.09)
4.5	611 (.01)	826 (.02)	1,437 (.02)
4.5+	183 (.003)	349 (.01)	532 (.006)
No Age	768 (.02)	410 (.01)	1,178 (.01)
Total	46,181 (.56)	35,967 (.44)	82,148 (100%)

Muzzleloading Deer Season: The intent of the muzzleloading season is to provide additional deer hunting opportunities to a constituency using primitive weapons. While the initial interest to hunt in this season was minimal, the potential for an increasing constituency is present as more and more hunters seek a new hunting experience. Hunter success for individuals receiving muzzleloading either-sex permits (402) was 6 percent and individuals receiving antlerless-only muzzleloading permits (139) was also 6 percent.

TABLE D. Issuance of 1991 Muzzleloading Deer Permits And Hunter Success

Muzzleloader (either-sex)	26 (.20%)
Muzzleloader (antlerless-only)	8 (.06%)
Free Landowner (either-sex)	37 (.29%)
Free Landowner (antlerless-only)	23 (.18%)
Paid Landowner (either-sex)	32 (.25%)
Shotgun (apparently illegally)	<u>2 (.02%)</u>
	128 (100%)

RECOMMENDATIONS: In an effort to control deer in counties where landowners have a perception that herd density is incompatible with land use patterns, it is recommended that continued harvest pressure be exerted on the female cohort. To this end, there needs to be additional bonus antlerless-only permits made available that are valid at the beginning of the season as well as for the full season for individuals desiring to purchase an additional permit. There needs to be additional second season-only permits made available to satisfy hunter demand to hunt in their county of choice.

Job 1C. Analysis of Highway Kill

Deer-vehicle collision data for 1991 was provided by the Illinois Department of Transportation (IDOT). IDOT monitors deer-vehicle collisions from January 1 through December 31. Reported figures are minimal and reflect only deer hit and killed on State-owned and maintained highways. Trends in deer/vehicle incidents reflect increasing deer populations and an increase in traffic volume. Table 5 identifies county-by-county deer/vehicle collisions for 1991. Figure 1 illustrates deer/vehicle accidents recorded by month of year and time of day.

TABLE 5. ILLINOIS DEER/VEHICLE COLLISIONS REPORTED DURING 1991.

ILLINOIS ACCIDENTS INVOLVING DEER
on State Marked or Maintained Routes

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
1 ADAMS	46	57	71	67	105	72	111	143	125	117
2 ALEXANDER	4	7	14	14	14	15	12	18	22	19
3 BOND	13	14	20	20	28	37	41	47	64	44
4 BOONE	16	18	43	26	39	46	45	53	59	56
5 BROWN	9	9	14	20	10	13	18	20	34	41
6 BUREAU	19	42	35	60	65	43	71	57	37	130
7 CALHOUN	13	10	17	13	27	32	20	24	8	26
8 CARROLL	27	30	32	29	51	46	61	87	76	85
9 CASS	8	6	16	12	19	16	26	23	36	37
10 CHAMPAIGN	19	28	46	39	67	65	82	100	124	111
11 CHRISTIAN	14	22	27	25	29	36	48	46	58	48
12 CLARK	27	32	41	40	54	61	57	63	30	75
13 CLAY	11	7	22	18	19	24	41	38	54	58
14 CLINTON	13	18	17	16	26	28	33	30	44	38
15 COLES	29	33	37	52	59	73	77	81	78	91
16 COOK	259	255	354	380	469	436	494	499	610	655
17 CRAWFORD	27	25	34	58	60	62	78	79	104	104
18 CUMBERLAND	10	14	20	21	24	28	47	52	48	76
19 DEKALB	12	16	17	20	38	45	56	49	58	74
20 DEWITT	12	19	22	24	27	64	59	51	49	65
21 DOUGLAS	7	9	7	12	16	22	17	22	24	22
22 DUPAGE	22	31	50	58	76	72	85	74	109	106
23 EDGAR	10	21	18	29	21	42	30	31	40	58
24 EDWARDS	4	6	9	21	21	21	24	26	36	42
25 EFFINGHAM	32	25	40	50	59	70	88	85	109	95
26 FAYETTE	27	22	37	32	56	53	47	83	77	78
27 FORD	8	7	12	9	14	16	27	19	25	28
28 FRANKLIN	30	49	53	57	93	86	108	105	122	135
29 FULTON	49	35	61	60	64	76	94	85	98	125
30 GALLATIN	1	2	4	7	4	9	6	12	15	10
31 GREEN	12	15	30	34	40	36	49	44	54	70
32 GRUNDY	22	22	16	29	41	41	43	61	64	64
33 HAMILTON	7	9	12	8	20	13	11	17	5	15
34 HANCOCK	34	29	35	27	37	45	64	72	69	101
35 HARDIN	4	4	6	20	13	14	12	16	28	27
36 HENDERSON	19	19	19	16	27	28	38	24	21	55
37 HENRY	33	36	41	53	73	94	99	96	119	139
38 IROQUOIS	23	29	29	49	59	51	57	90	93	96
39 JACKSON	48	69	90	85	111	127	155	207	223	242
40 JASPER	10	10	16	18	22	27	25	31	21	43
41 JEFFERSON	42	53	65	82	100	90	119	126	159	130
42 JERSEY	15	23	33	34	50	55	54	56	59	80
43 JODAVIESS	25	39	44	47	63	60	65	76	94	100
44 JOHNSON	27	30	42	49	36	48	73	87	85	112
45 KANE	55	68	80	81	124	125	150	190	216	212
46 KANKAKEE	16	18	40	30	35	46	53	59	60	83
47 KENDALL	9	12	25	27	26	43	51	45	46	69
48 KNOX	26	32	30	31	40	57	64	70	89	70
49 LAKE	106	126	157	200	250	274	298	359	346	404
50 LASALLE	35	46	71	78	99	102	124	152	172	182
51 LAWRENCE	21	17	21	27	43	45	48	61	81	73

TABLE 5. ILLINOIS DEER/VEHICLE COLLISIONS REPORTED DURING 1991.

ILLINOIS ACCIDENTS INVOLVING DEER
on State Marked or Maintained Routes

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
52 LEE	34	33	52	33	88	84	85	111	132	110
53 LIVINGSTON	19	18	19	25	37	46	44	47	72	84
54 LOGAN	14	11	19	15	27	32	44	41	28	55
55 MCDONOUGH	15	13	16	18	17	26	31	31	36	41
56 MCHENRY	80	120	117	129	165	193	237	250	269	322
57 MCLEAN	18	22	41	46	78	77	89	72	100	104
58 MACON	22	27	43	38	49	61	62	67	95	99
59 MACOUPIN	21	33	38	58	58	70	80	102	95	123
60 MADISON	67	66	84	88	148	131	180	207	193	232
61 MARION	38	25	43	42	63	78	85	90	120	107
62 MARSHALL	11	19	16	21	30	30	29	51	46	55
63 MASON	8	1	9	7	19	15	9	18	22	33
64 MASSAC	7	16	15	10	23	29	35	49	53	52
65 MENARD	7	2	16	14	9	14	21	21	6	35
66 MERCER	8	13	18	15	18	6	24	23	28	26
67 MONROE	19	16	27	22	36	31	36	33	55	46
68 MONTGOMERY	24	24	44	38	33	48	67	81	84	92
69 MORGAN	28	35	39	41	56	74	75	71	88	95
70 MOULTRIE	18	15	26	18	20	37	35	36	21	20
71 OGLE	42	72	83	86	100	108	125	113	147	135
72 PEORIA	58	68	92	73	128	131	141	149	178	146
73 PERRY	37	36	59	76	76	83	86	103	109	139
74 PIATT	9	13	20	13	22	11	25	27	33	23
75 PIKE	40	70	90	66	112	111	129	153	216	241
76 POPE	8	4	6	11	17	14	19	23	22	14
77 PULASKI	14	9	11	13	22	12	14	31	37	53
78 PUTNAM	11	15	24	14	20	20	24	17	26	33
79 RANDOLPH	25	38	45	58	76	74	77	85	117	122
80 RICHLAND	15	18	25	31	34	38	43	49	49	54
81 ROCK ISLAND	40	58	69	57	78	89	88	87	114	120
82 ST. CLAIR	48	46	58	82	95	102	109	107	162	161
83 SALINE	14	25	21	27	39	46	47	66	79	83
84 SANGAMON	54	40	68	56	113	112	155	182	192	185
85 SCHUYLER	24	22	23	32	32	33	34	57	57	44
86 SCOTT	9	6	15	13	18	31	29	34	28	48
87 SHELBY	21	19	26	32	44	38	34	49	46	61
88 STARK	2	6	5	7	7	5	13	19	17	18
89 STEPHENSON	34	39	50	46	50	70	85	113	88	121
90 TAZEWELL	38	35	51	49	70	64	85	98	121	103
91 UNION	40	41	51	45	45	66	61	73	90	105
92 VERMILION	42	61	65	69	75	108	116	107	122	104
93 WABASH	8	10	8	14	20	9	14	24	34	33
94 WARREN	11	7	16	18	19	28	35	33	37	44
95 WASHINGTON	13	19	26	37	47	39	44	48	71	81
96 WAYNE	20	17	19	26	32	33	41	39	41	52
97 WHITE	12	18	23	41	27	41	65	59	72	80
98 WHITESIDE	24	37	37	38	47	48	56	57	50	63
99 WILL	81	74	92	123	158	156	180	217	280	263
100 WILLIAMSON	66	86	81	96	123	125	147	166	179	188
101 WINNEBAGO	90	102	130	143	198	214	208	220	197	201
102 WOODFORD	22	17	16	33	34	30	42	41	45	61

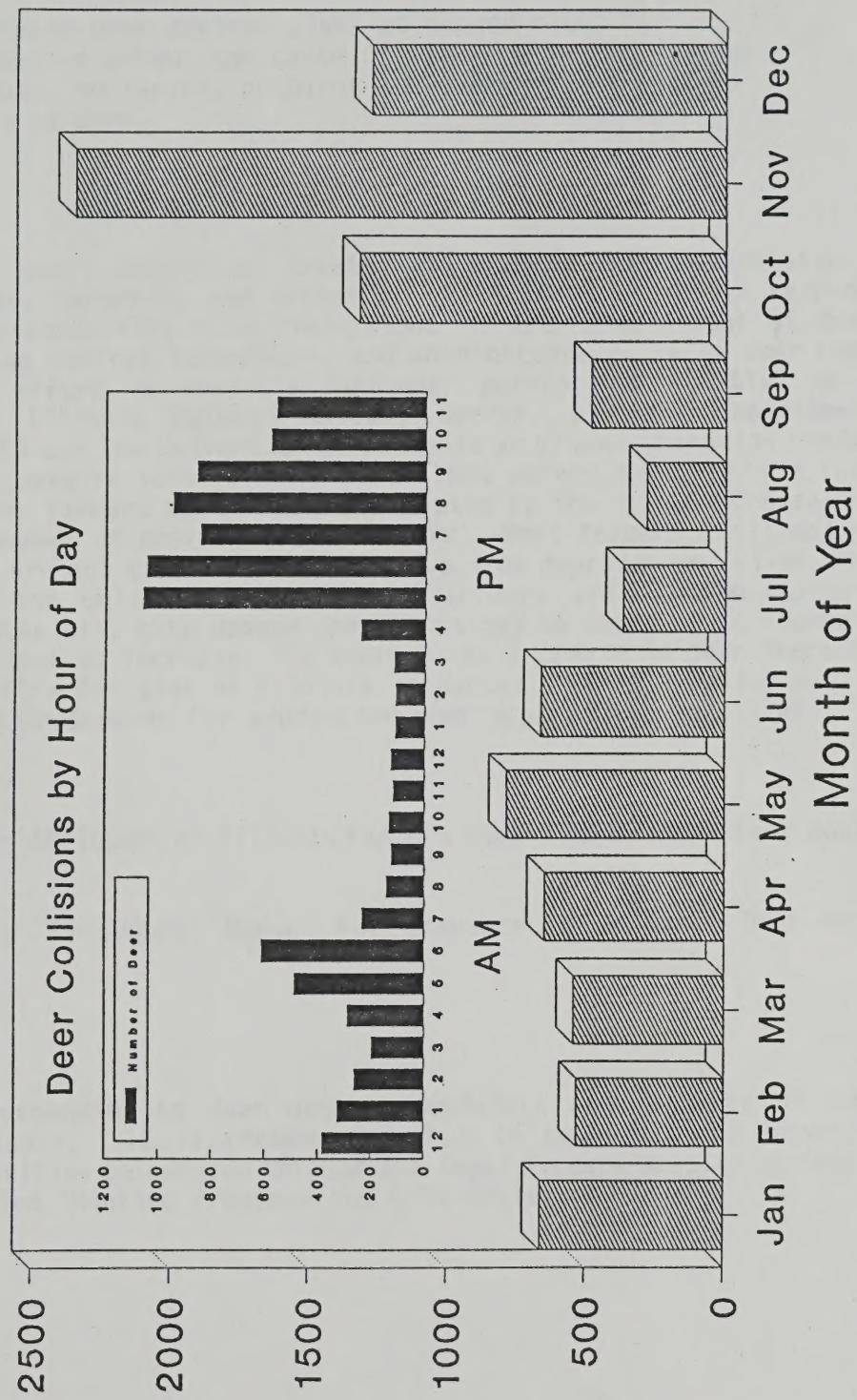
TABLE 5. ILLINOIS DEER/VEHICLE COLLISIONS REPORTED DURING 1991.

ILLINOIS ACCIDENTS INVOLVING DEER
on State Marked or Maintained Routes

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
TOTALS	2797	3212	4179	4517	5915	6301	7294	8088	9076	9926

Deer-Vehicle Collisions by Month and Time of Day - 1991 Summary

FIGURE 1. ILLINOIS DEER-VEHICLE COLLISIONS BY MONTH & TIME OF DAY



STUDY 1 - POPULATION STUDIES OF WHITE-TAILED DEER

JOB 1D - CROP AND ORCHARD DEPREDATION INVESTIGATIONS AND RECOMMENDATIONS

OBJECTIVE: To prepare deer control plans at needed sites by documenting extent and cause of, and remedy for, damage to crops, nurseries, orchards and ornamental trees and shrubs by deer.

ABSTRACT:

Increasing deer densities create associated deer depredation to agricultural crops, nurseries and orchards. Department personnel respond to these concerns by conducting site evaluations to determine extent of damage, explain deer damage control techniques, and when necessary, issue deer removal permits. In an effort to evaluate landowner perceptions relative to deer depredation, the Illinois Natural History Survey, Illinois Department of Conservation (IDOC) and the University of Illinois at Urbana-Champaign conducted a landowner questionnaire survey. Results of this survey identify that for the most part, Illinois farmers appear to have adapted to the large increase during the 1980 in the number of deer and deer hunters. Most farmers still enjoy the presence of deer, are not experiencing excessive crop depredation, allow hunting on their farms, and believe the number of archers and firearm hunters is acceptable. Nonetheless, crop damage complaints may be expected to increase if deer numbers continue to increase. To address the increase in deer depredation complaints the IDOC's Division of Wildlife Resources drafted a policy outlining and standardizing procedures for addressing deer depredation complaints.

Techniques:

Appendix A: "Attitudes of Illinois Farmers Regarding Deer and Deer Hunters, 1990"

Appendix B: "Procedural Manual For Issuance Of Nuisance Deer Removal Permits"

RECOMMENDATIONS:

Continue responding to deer damage complaints and issuance of removal permits as necessary. It is recommended that in counties with depredation problems deer densities be reduced through the legal firearm seasons as described in section entitled "Hunting Pressure and Kill Analysis".



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